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Case Report

A case of rectus sheath abscess: A late complication of inguinal hernia repair

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Abstract
Rectus sheath abscess is a rare condition with a high mortality and morbidity. They usually occur spontaneously, after trauma or surgery and located infraumbilically. Rectus sheath abscess is often misdiagnosed as acute abdomen or tumors of the abdomen. Correct diagnosis and treatment must carried out as soon as possible. Diagnosis is made using clinical, laboratory and radiological data. Ultrasonography and computed tomography significantly help in the correct diagnosis of rectus sheath abscesses. Incorrect diagnosis can cause unnecessary antibiotic treatments and negative laparotomies with a high rate of mortality and morbidity. A 27-year-old male patient was admitted to our polyclinic with fever and sweating for the last 3 months. There was no history of chronic disease, with the exception of surgery due to an inguinal hernia a year ago. The patient underwent abdominal computed tomography, and an abscess was detected on the rectus sheath. The abscess was drained and the patient was discharged from the hospital after the completion of the current antibiotic therapy. Here, we wanted to emphasize that rectus sheath abscess may be a late complication of inguinal hernia repair and evaluation should be done earlier with computed tomography considering surgical intervention history.

Keywords
Rectus Sheath Abscess, Inguinal Hernia Repair, Late Complication

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Introduction

External rectus sheath abscess is a rare condition with high mortality and morbidity rates. It is generally seen as a complication of rectus sheath hematoma [1]. Hematoma develops as a result of rectus abdominal muscle branches or epigastric artery injuries during intra-abdominal surgeries [2]. We present a rare case of rectus sheath abscess after an inguinal hernia operation. It was aimed to emphasize that rectus sheath abscess should be considered in patients with a history of intra-abdominal surgery who present with complaints of fever, weight loss and fatigue, and early diagnosis and treatment are important in terms of mortality.

Case Report

A 27-year-old male textile worker was admitted to our clinic with fever and sweating for the last three months. He described a continued type of fever exceeding 39 °C for all day long. A year ago, he had had inguinal repair surgery elsewhere a year ago and was discharged home on the third postoperative day. He had no complaints until three months ago. Three months ago, he had a fever and sweating. He sometimes admitted to the Emergency Department of our hospital and his fever was reduced with antipyretics and he was discharged. Two days later, he was admitted to our clinic.

His body temperature was 38.5 °C, arterial blood pressure was 100/70 mmHg, and pulse rate was 88/min. His abdominal examination revealed tenderness in the right upper abdominal quadrant and a three cm previous operation scar due to inguinal hernia repair. No palpable mass was detected on the abdominal wall. Laboratory results were as follows: leukocytes: 22.900/mm3, erythrocyte sedimentation rate: 60 mm/h, C-reactive protein: 101 mg/L, aspartate aminotransferase (AST): 31 U/L, alanine amino aminotransferase (ALT): 24 U/L, ferritin: 266 ng/mL; Abdominal ultrasonography (USG) revealed splenomegaly. CT scan of the abdomen showed a 4.5X1.5 cm extraperitoneal dense collection loculation with air pockets in the left rectus sheath at suprapubic level, which was considered to be consistent with dermal-subdermal inflammation (Figure 1).

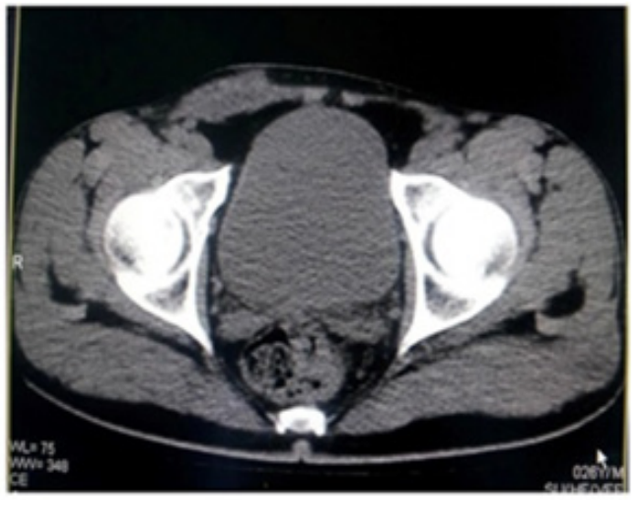

Figure 1. Dense, loculated abscess with extraperitoneal, suprapubic level air levels in the rectus sheath

The collection had no intraperitoneal communication and no intraperitoneal fluid collection. A diagnosis of rectus sheath abscess was made. Ampicillin/sulbactam (6g/day) therapy was started. Abscess drainage was performed by a general surgeon, and no growth was observed in the aerobic and anaerobic culture of drainage material. The patient with no fever during follow-up, was discharged from the hospital after the completion of the current antibiotic therapy, and polyclinic control was recommended.

Discussion

Occult abscesses are usually located in the abdomen or pelvis. Underlying conditions, which predispose to abscess formation, include cirrhosis, steroid or immunosuppressive medications, recent surgery, and diabetes. Abscesses arise when there has been disruption of a barrier such as the bowel wall in appendicitis, diverticulitis, or inflammatory bowel disease. Intra- abdominal abscesses can develop in the subphrenic, omental, pouch of Douglas, pelvic, and retroperitoneal locations in addition to visceral sites [1]. The patient's history revealed no chronic disease except for surgery due to an inguinal hernia a year ago, and an intraabdominal abscess developed in the rectus sheath. Also, rectus sheath abscess can occur because of other pathologies. One of the pathology is the infection of hematomas [1, 2]. That may be related to trauma or surgery. Abscess formation in the rectus sheath is an injury to the abdominal vessels as usually seen with trocar insertion during a laparoscopic procedure. This condition can lead to the accumulation of large amounts of blood and pus, causing abscess formation [3, 4]. Therefore, in order to avoid this complication, the abdominal wall anatomy must be known perfectly. Another cause of abscess can be a foreign body inserted into the abdominal wall. Although it is very rare, Noushif et al. [5] have reported rectus sheath abscess caused by ingested metallic needles. Also, rectus sheath abscess can occur after appendectomy. Coşkun et al. [6] have reported an abscess formation, which showed a different extension of the rectus sheath after appendectomy.

Rectus sheath abscess is a potentially serious condition with significant morbidity and mortality [1]. Correct diagnosis and management should be done as soon as possible. Ultrasound and computed tomography are helpful technics for localizing the abscess.

USG may provide limited information and may lead to wrong interpretation due to existing abdominal tenderness of the patient and difficulty in distinguishing between intra and extra-abdominal lesions [7, 8]. CT is the gold standard for diagnosis and has approximately 100% sensitivity and specificity. Abdominal ultrasonography of the patient showed no pathology except for splenomegaly, rectus sheath abscess was detected on the computed tomography of the abdomen. In this case, ultrasonography was inadequate according to the literature data, and the diagnosis was made by abdominal tomography. After the localization of the abscess, urgent drainage is obligatory with antibiotic treatment. According to the localization of the abscess, percutaneous drainage can be performed. In other cases, surgery is the first option for drainage [6]. In this case, abscess percutaneous drainage was performed, cultured, and

ampicillin/sulbactam (6 g/day) therapy was initiated. No growth was observed on the abscess's culture. The patient, who had no fever during follow-up, was discharged from the hospital after the completion of current antibiotic therapy.

Rapid diagnosis with directed history, physical examination, and computerized tomography of the abdomen may help for the correct and immediate management of the patient shaving rectus sheath abscess.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal And Human Rights Statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Conflict Of Interest

The authors declare no conflict of interest.

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